

WHAT IS CLAIMED IS:

1. A method of producing a semiconductor device,
comprising the steps of:

5 forming a non-crystal semiconductor film on a substrate;
 heating said non-crystal semiconductor film; and
 eliminating projections generated by said heating on said
non-crystal semiconductor film using a physical elimination
method.

10 2. A method of producing a semiconductor device
according to claim 1, wherein said physical elimination method
comprises an ion milling method for applying ion beam
irradiation to said projections to eliminate said projections.

15 3. A method of producing a semiconductor device
according to claim 2, wherein an angle θ formed by an
incident direction of the ion beam from said ion milling and a
direction of a normal line of a surface of said non-crystal
20 semiconductor film is 60° to 90° .

 4. A method of producing a semiconductor device
according to claim 1, wherein said heating step comprises a
step of applying laser beam irradiation for fusing and
25 recrystallizing said non-crystal semiconductor film.

 5. A method of producing a semiconductor device

according to claim 4, wherein said physical elimination method comprises an ion milling method for applying ion beam irradiation to said projections to eliminate said projections.

5 6. A method of producing a semiconductor device according to claim 5, wherein an angle θ formed by an incident direction of the ion beam from said ion milling and a direction of a normal line of a surface of said non-crystal semiconductor film is 60° to 90° .

10 7. A semiconductor device comprising:
a substrate; and
a non-crystal semiconductor film formed on said substrate,

15 wherein said non-crystal semiconductor film has a planar surface formed by eliminating, using ion beam irradiation, projections generated on said non-crystal semiconductor film due to heating of said non-crystal semiconductor film.